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NEW CONSIDERATIONS FOR THE OPERATIONAL COMMANDER

by

David C. LeRoy
CAPT, USNR

A paper submitted to the Faculty of the Naval War College in partial satisfaction of the requirements of the Department of Operations.

The contents of this paper reflect my own personal views and are not necessarily endorsed by the Naval War College or the Department of the Navy.

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Uncertain and ever-shifting challenges will continue to affect U.S. defense strategy, impacting directly upon U.S. Unified and Specified Commands (i.e. the CINCs). The ability to anticipate problems and adapt is becoming evermore critical for the operational commander, as economic challenges and global shifts in power emerge. This paper will detail the significance of the changes and outline newly-emergent trends and resultant implications. From these, six specific and pratical recommendations are offered in order to assist the CINCs in this unsettling new defense climate.

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Uncertain and ever-shifting challenges will continue to affect U.S. defense strategy, impacting directly upon U.S. Unified and Specified Commands (i.e. the CINCs). The ability to anticipate problems and adapt is becoming evermore critical for the operational commander, as economic challenges and global shifts in power emerge. This paper will detail the significance of the changes and outline newly-emergent trends and resultant implications. From these, six specific and practical recommendations are offered in order to assist the CINCs in this unsettling new defense climate.

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TABLE OF CONTENTS

CHAPTER I

INTRODUCTION

Strategic Plans -- Operational Dilemmas. Today most Americans believe we live in a safer world. The disintegration of our Cold War foes has moved us from the tension of a high-risk bi-polar world toward a lower-risk but more uncertain security environment. The environment in which the United States developed a colossus of military capability -- characterized by precision weapon systems that use leading-edge technology -- is in the process of being dramatically altered. Much has been written about this. There has been great debate in Congress, the media, and the Pentagon over the "peace dividend," and the future mission, size and armament of U.S. armed forces.

This debate will continue. The wrangling over how exactly to define the strategic landscape goes on. But most people assume that, though we now are in transition, eventually defense objectives will be clear again, howbeit altered and smaller in scale. Some military personnel seem convinced that if we can ride out the current storm of defense cutbacks and uncertain direction, the situation will stabilize, hopefully soon. Unfortunately, as this paper will show, such an attitude is no longer realistic and could prove disastrous.

This paper is about the problems of operational commanders or CINCs, Commanders in Chief of Unified and Specified U.S. commands.[1] (Appendix I provides additional information on U.S. CINCs.) Constantly changing signals at the strategic level require major changes in the planning, resources and even the doctrine with which the CINCs operate. Discussion of U.S. strategic evolution is presented to lay the foundation for understanding emerging trends, and their implications for the CINCs.

Uncertainty, of course, presents problems for the operational-level commander. Changes at the strategic level have great implications at the operational level; the linkage is fundamental. But these problems can best be overcome, not by waiting for more predictable circumstances, but by acknowledging the difficulties, adapting quickly and effectively, and moving with resolve as each new situation unfolds.

This paper will detail how truly significant, unsettling and longterm are the changes already set in motion. Emerging trends will be identified. From these, implications will be drawn, conclusions made and recommendations suggested for the operational-level commander in order that he may anticipate problems and minimize adverse effects.

CHAPTER II

EVOLVING STRATEGY

Post-Cold War Adjustments. Four decades of Cold War strategy created a plethora of complementary and overlapping weapons systems operated by a large standing military force and supported by a robust domestic defense industrial base. Following the Cold War, ill-defined military threats combined with a faltering U.S. economy and pressing domestic priorities to result in sweeping cuts. Overall defense spending is projected to decline from a peak of 6.4 percent of Gross National Produce (GNP) in 1985, to about 3.8 percent of GNP in 1996, the smallest proportion since World War II.[2] As a portion of the federal budget, defense outlays will drop dramatically from 27 percent just six years ago to 18 percent this year (1993) with further cuts pending.[3]

In his August, 1990 "Aspen Speech," President Bush introduced the base-force concept. At first, this vision was perceived as the "new direction" but it soon became apparent that it was only the first step in a seemingly unending series of "new directions." The "base force" soon became a ceiling, and politicking between services for missions and programs quickly became de rigueur. A year later, a "smaller and restructured force" with regional orientation and four pillars of Strategic Deterrence, Forward Presence, Crisis Response, and Reconstitution were laid out in the National Security Strategy of the United States.[4]

Although graphics displayed the "four pillars" equally, that image has become blurred by practical considerations. "Reconstitution" has received little funding, and is fundamentally avoided as a mission by both active and reserve service components.

"Strategic Deterrence," is critical but relatively inexpensive compared to typical operating forces. Extensive overseas base closures and funding restrictions on forward deployed forces have significantly eroded the "Forward Presence" pillar. "Crisis Response," on the contrary, has grown in stature and importance. New doctrines of "Global Power -- Global Reach" (Air Force) and "From the Sea" (Navy) testify to an expanding Crisis Response role.

What we have seen in the post-Cold War era, is irresolution and ongoing change. What is clear about our national security strategy is that the military threat to the U.S. is diminished, and the economic threat is ascending.[5] And, that reality is the nearest thing to a framework in which defense decisions are now made.

Global Economic Restructuring. While the U.S. remains the only military superpower, it is one of three economic superpowers -- the others being Japan and Europe (centered on Germany). International market share shifts and technology dispersion are aspects of global economic restructuring, where countries with cheaper work forces industrialize and move up the economic food chain, pushing others to compete. Some anticipate the U.S. will slip from first to third place early in the 21st century.[6] There are many reasons and issues that together translate into problems such as erosion of the U.S. hi-tech edge and loss of manufacturing independence.

Systematic problems. George Lodge, a Harvard Business School professor predicts that the British-American individualistic form of capitalism will soon "face-off" with communitarian[7] German and Japanese variations of capitalism.[8] Simply put, German and Japanese systems are edging out the U.S. in head-to-head competition in important market segments.

Industrial obsolescence. Lester C. Thurow, dean of MIT Sloan School of

Management observes, "Today America is technologically only average if one includes both product and process technologies."[9] [10] Mechatronics, the fusion of mechanical and electronics technologies has transformed the machine tool industry. In the past decade U.S. machine tool imports rose from 26 to 50 percent, overall; in a recent three year period, 1550 of 2350 DoD machine tool procurements were from the restricted list (i.e. foreign purchase). What these statistics don't disclose is the loss in engineering and shop floor skills, difficult to replace if surge production is required.[11] Part of the problem lies in the fact that U.S. plant and equipment investment per labor force member is half of what Germany, and only one-third of what Japan invests. Plus, our education system is failing to produce technically trained personnel.

Technology dispersion. Our once impressive technological edge is being eroded by other developed countries. U.S. commercial R&D investments are 40 to 50 percent less than in Germany or Japan.[12] Increasingly we need to "spin-on" commercial technology to military applications, rather than the old model where we would "spin-off" U.S. military technology to commercial uses. U.S. antitrust laws are having the unintended effect of leaving the U.S. on the doorstep in the increasingly important strategy of "technology fusion." Technology fusion combines technology from previously separate fields to create revolutionary new materials and products. An example is the combination of biology and chemistry to create fourth generation[13] advanced composite materials such as carbon fiber, developed by Japan for golf club shafts. Fumio Kodama, a visiting professor at Harvard University who directed Japan's National Institute of Science and Technology Policy from 1988 to 1991 terms "breakthrough" technology (prominent in the U.S.) "an older generation of technology," supplanted by technology fusion.[14]

Domestic Industrial Base. Between slashed defense acquisitions and business lost to a globalized economy, the U.S. Defense Technology and Industrial Base (DTIB) has taken a beating. DoD has encouraged "dual tracking," where defense industries seek civilian customers, but this is mild salve for a bleak situation: 200,000 private-sector defense-related jobs were lost last year and by 1996 job losses could approach a million of 3 million total.[15]

Aerospace. McDonnell Douglas Corporation (MDC), the envy of other Western military aircraft manufacturers with four fighter aircraft in production, saw its world-wide market share drop to 8 percent from 18 percent four years earlier.[16] To adjust, MDC trimmed its work force and restructured to "dual-track" (current 56:44 military/civil ratio of work will invert to 48:52, favoring civil business).[17] The MDC restructuring includes selling its helicopter division which produced the popular Apache, simplifying the supplier base from 1800 companies to 500, and possibly selling a 40 percent share of its commercial aircraft business to Taiwan Aerospace Corporation (underwritten by Taiwanese government), to access the low-wage work force.[18] Like MDC, industry leader Boeing (with 59 percent world-market share) forged links with Asian partners, including prime subcontractors on the new Boeing 777: Japan's aerospace leaders Mitsubishi, Fuji, and Kawasaki.[19] Critics argue that the U.S. emerging world-leadership strategy of joint foreign ventures such as these train future competitors, and transfer U.S. aerospace technology to overseas subcontractors who are putting U.S. subcontractors out of business, in part because of foreign government subsidies.

Future R&D was to focus upon 21 "critical technologies," then seven technology "thrusts,"[20] that "show the best promise of needed capabilities."[21] "Sustaining and applying the explosion in information technology is one of the core elements of this new

DoD science and technology strategy."[22] Systems such as Theater Missile Defense, Copernicus[23] (the future C4I2 architecture of the Navy)[24], and Space and Electronics Warfare (SEW)[25] are examples of software management systems where the U.S. continues to maintain technological superiority. This is an important focus at the cutting edge of technology essential to provide the CINC with tools for military management of the "information war" of the 21st Century.[26]

Overall, global economic restructuring and domestic economic strategies are combining to fundamentally alter the procurement system that has built the U.S. military arsenal, leaving few bright spots to cheer about.

Clinton Administration Concepts. It is difficult to predict, six months into the Clinton Administration, how far new trends will be carried, but we do have a sense of the direction that will be taken. The economic focus is certainly appropriate. Substantial changes have already been implemented and more are reportedly on the way.

Secretary of Defense Les Aspin has already wielded significant influence on the defense decisions presented above in his former capacity as Chairman of the House Armed Service Committee. He is exceptionally well qualified to carry out Administration fiscal policy. Secretary Aspin graduated from Yale University, received a masters degree in economics, politics, and philosophy from Oxford University, and a doctorate in economics from Massachusetts Institute of Technology.[27]

Two issues that elevate economic considerations in National Security decision-making seem particularly significant. First, President Clinton has announced the expansion of the National Security Council (NSC) to include the Secretary of the Treasury, Assistant to the President for Economic Policy, and the U.S. Representative to the United Nations.

Secondly, he established the National Economic Council (NEC) on January 25, 1993, and he plans to elevate it to an equal level with the NSC. Appendix II lists membership of the NEC and NSC. Appendix III presents a schematic that highlights the domestic and international aspects of the NEC, and how the NSC and NEC might look as equal policy making bodies. Unprecedented economic influence and such diverse input have never before been directly considered in national security decision making.

Continuing reductions in the defense budget should be expected. Administration critics claim that nearly all of the deficit reduction proposal in President Clinton's Economic Plan comes from the defense budget. If that occurs, look for additional personnel and operating account cuts, to have a timely effect. Major procurement has been trimmed.

Based upon initiatives by Secretary of State Warren Christopher regarding the Middle East and Bosnia-Herzegovina, the trend of U.N. empowerment and combined Ad-hoc Coalition military operations will continue. This is complicated by new relationships that are emerging in the post-Cold War era that tend to mix security (military) arrangements in a complex way with economic arrangements. This is illustrated in Appendix IV, which shows the various security and economic alliances with which USCINCEUR[28] must deal. Note that the Western European Union (WEU - security); the Economic Community (EC - economic, often referred to as the Common Market) recent single-market trade agreement; and the inclusion of 22 new members in the North Atlantic Co-operation Council (CSCE - economic) have all occurred since the end of the Cold War, and without U.S. participation. This also helps show why some economists feel that we are moving toward three economic trading blocks: Europe, centered on Germany, trading with Central Europe; Japan with all of Asia; and, the United States with Canada, Mexico, Central and South America (a NAFTA

Plus)[29]. Although this development may take considerable time to occur, it will create power shifts that will greatly alter regional security arrangements, with profound implications for U.S. CINCs. Signs of such a development are emerging. Following are excerpts from a recent N.Y. Times front page story that announced: "Japan is Rallying Asian Nations Against New U.S. Trade Policies."

> "In Japan's most direct attack on the Clinton Administration, Japanese officials have swept through Asia in recent weeks to rally opposition against America's new trade policies, arguing that while Japan may be Washington's target now, other Asian nations will be next.
>
> At its core is the Administrations's insistence on numerical targets for gaining market share and other quotas that would assure American products' access to Japanese markets... To the chagrin of many American officials in the Pacific, the debate in recent months has permitted Japan to take the moral high ground, allowing it to portray itself as, of all things, a free trader ...
>
> While many in Europe are reluctant to join with the Japanese, one by one countries throughout Asia -- from Indonesia to Malaysia to Australia -- have been denouncing the Clinton Administration's approach... The Japanese are calling in their chips..."[30]

Most senior military officers I have spoken with, from every service, seem to perceive that the U.S. military is under attack due to strategic and economic considerations, but if they can "wait out the storm," everything will be alright. The facts presented in this chapter reveal a much different picture. We are at the headwaters of a stream of strategic changes that will ripple down and dramatically alter the operational landscape where the CINCs must carry out U.S. policy.

CHAPTER III

NEW DIRECTIONS

Trends. The limited scope of this paper prohibits a thorough examination of all the issues that are causing ongoing change at the strategic level. The previous chapter has highlighted certain key factors. Beginning with the facts presented in Chapter II, we can distill certain elements of change from the Cold War era to the post-Cold War period we are in, which I will refer to as the New World. Some of these are listed below. Examination reveals new trends, and in some cases new strategies that are emerging. Taken together these trends sculpt the new landscape in which the CINC-level commander must function.

	Cold War Era	New World
Threat related:	Monolithic	Diverse/Ill-defined
	Communism	Trans-national/ethnic/social issues
	Global containment	Regional focus
	Strategic Nukes	Regional/Terrorist Nukes
	Survival at risk	Interests/Citizens at risk
	Deterrable	Non-deterrable
	High Fear of Escalation	Low Fear of Escalation
	Predictable	Uncertain
	"Good" vs. "Evil	"No "white hats"
	Stable social orders	"Have not's" migrate to "Have's"
Forces related:	Large DoD budget	Declining DoD budget
	Large military force structure	Decreasing force structure
	Redundancy	Efficiency
	Stable Doctrine	Evolving Doctrine
	Traditional roles	Multiple roles
	Forward Based	U.S. based
	Forward Deployed	Power Projection
	Large Infrastructure	Fewer Bases
	Large Active Component	Greater reliance on Reserves
	Military Alliances	Ad-hoc coalitions

Weapons related:	U.S. technology superior	Technology diffused
	"Spin-off" technology	"Spin-on" (commercial to defense)
	National industrial base	International industrial base
	Development to production	ATD's and prototypes
	Produce each improvement	"Rollover" technology
	Emphasis on new systems	Emphasis on upgrades
	New weapons priority	Information systems priority
	Large production runs	Low volume runs
	Expensive weapons	Even more-costly weapons
	Domestic components	International components
	High-Tech Dominant	High, Medium, Low-Tech Mix

Emerging Theme. Before addressing specific implications, I want to emphasize an overall emerging theme: Our defense threat is diminished, and our economic threats are ascending. Although this is a simple statement of the obvious, it captures a critical concept with far reaching consequences. More than ever before in history, because of the hi-tech way we fight, economics and the application of U.S. military force are inextricably linked.

CHAPTER IV

IMPLICATIONS, CONCLUSIONS, & RECOMMENDATIONS

Caveat. Analysis of emerging trends provide many insights and implications for the operational-level commander. Six significant implications will be addressed here. From these, conclusions will be drawn and recommendations suggested. Because of the number of issues selected, each will be addressed individually, directly followed by a conclusion and recommendation drawn from that implication. This format will simplify the logic pattern.

This presumes that no major state military threat will emerge that has the capability of placing the continental United States and its people at risk of massive attack. Such a threat would cause us to mobilize our defense capability. There will be rogue states, trans-national, and terrorist threats that may even have weapons of mass destruction (WMD)[31] capabilities, but for these we would not mobilize.

(1) Dwindling Political Support. The iron triangle is broken.[32] Declining defense procurement, loss of jobs and lost industries due to internationalization of our DTIB are eroding traditional congressional support for defense. Added is the economic impact of base closures and troop relocations, very politically unpopular measures. We are losing the political constituency for defense, and that will translate into lower funding in the future. In the recently seated Congress, fewer new politicians than ever in recent history have had military experience. And not one of them requested a military committee seat. Our President is without military service. This reflects voter priorities other than defense.

This development is extremely significant. When a defense build-up no longer

translates into jobs and profits, and could possibly create an inverse balance of trade, we will have little support for rearming.

Conclusions. CINCs will be asked to do more with less. In the absence of defense spending, CINCs need to be sensitive to maintaining political support through preserving the popular support of the American public. Expect pressure for further cuts in active manning, under the cover of a force-shift to reserve components to save defense dollars. Additional budget cuts could stimulate new competition among services for roles and missions.

Recommendations. Eagerly participate in U.S. domestic humanitarian and relief type operations. Seek good press relations. Efficiencies that will maximize the benefits of scarce defense dollars should be embraced. Get hold of the reserve components and make them more responsive; CINCs can no longer afford to let someone else manage this asset. If quicker, more flexible access is needed, CINCs should express this need, so legislation can be pursued.

(2) International Firemen. Crisis Response is emerging as the dominant pillar, not because of a Clauziwitzian warfighting concept, but because it is the cheapest way to go. Forward Presence enabled CINCs to be like policemen on their beat, getting to know the neighbors and the troublemakers. As Crisis Response dominates, CINCs become more like firemen who rush to put out a fire when it erupts, or provide humanitarian rescue, like an EMT. Like firemen, we will find firefighting more difficult than fire prevention. And we must learn our limits; a fire station can only respond to so many alarms.

Conclusion. CINCs need to push through required strategic air and sea lift now, to

be able to surge forces. Get funding now, while Desert Storm is still a fresh memory. Budgets will only get smaller.

Recommendations. Do whatever is necessary to refine the C-17 and get it into production, and press for required sealift. Explore the concept of "dual use" of strategic lift to make it more cost efficient. Perhaps this could be the reverse of us leasing fast sealift in Desert Storm; we could lease excess lift capability with the understanding that defense requirements are the first priority. With less forward deployment, there will be lower demands on our lift capability. There will be resistance, but we have contracted out space shuttles, and boosters, and those were more complicated.

(3) Proliferation. Global restructuring, politically and economically, is enabling the rapid spread of medium and high-tech weaponry, and in some instances, weapons of mass destruction. A wide range of Soviet-developed weapons are readily available for sale. Third world countries will utilize inexpensive low and medium-tech weapons to deny very expensive U.S. systems; mines and shoulder launched missiles are examples. Although low observable platforms are unlikely, low observable weapons such as the Exocet are available to a wide range of potential advisories. The proliferation of sophisticated weapons means that the U.S. will probably be targeted by terrorists more often and domestic or overseas bases are also likely candidates. Tactical nuke blackmail is possible.

Our international industrial base, dispersion of technology, use of "spin-on" and "roll-over" technology, Advance Technology Demonstrators (ATD) and prototype testing (vulnerable to espionage) contribute to the narrowing hi-tech edge we hold.

Conclusion. We have an increasing likelihood of facing medium and high-tech weapons on the battlefield. CINCs should plan for the worst in even low intensity future operations. Mines and other readily affordable arms will flourish among opponents. Expect our hi-tech edge to narrow, with some exceptions, such as command and control capabilities.

Recommendations. CINCs should anticipate the possibility of hi-tech opposition in even humanitarian operations. We need a theater missile defense system now. CINCs should make this a top priority, along with strategic lift. Continued mine countermeasures research is indicated. The wide-range of missions and diverse, ill-defined threats increase the need for increased intelligence. Proliferation of WMD will increase the need to protect against terrorists and trans-national splinter groups.

(4) Interdependence. The globalization of our defense industrial base (particularly sub-contractors) provides high quality, cost-effective systems. However, as a result of becoming a post-industrialized nation, we have lost certain domestic industrial capabilities to our allies, making our DTIB less independent and responsive to surge requirements. This was highlighted in a Tokyo best seller, "A Japan That Can Say No[33]," published after Desert Storm. We depend on many allies as subcontractors for critical parts and important systems, such as components in cruise missiles. Northrop Corporation uses 3,996 subcontractors to build the B-2.[34]

Conclusion. CINCs need to be aware that there are countries that could use the "economic lever" against the U.S., and in doing so degrade our warfighting capability. Although there are usually optional sources for foreign components or systems, we do give

up some independence. CINCs need to be aware that they could experience shortages of critical weapons, so they don't make commitments based upon questionable weapons sources.

Recommendation. Geographic CINCs should develop plans for augmenting key shortages of weapons to any warfighting CINC. To avoid becoming hamstrung, critical weapons systems vulnerable to loss of foreign sources (less than three sources) should be stockpiled. Many U.S. strategic reserves are no longer necessary or even applicable. Perhaps some strategic military reserve funding could be redirected to purchase larger stockpiles of critical weapons.

(5) Demand Technology. New procurement guidelines favor technology insertion (upgrades) over new weapons systems. Production of either will depend on strict criteria, including clear need, cost effectiveness, and then only after a prototype or Advanced Technology Demonstrator (ATD) is fully tested and "de-bugged." These are sound management steps, but there can be better communication between the researchers and the warfighters. Specifically, a closer linking could focus research on what exactly the CINC needs the most, rather than presenting a menu of "breakthrough" technologies, as occurred during the Cold War.

There is another important consideration for the CINC. The occasional system that is justified for production will be low volume runs. This will cause the cost of already expensive weapons to soar, and strictly limit the number of units that can be acquired.

Conclusion. CINC (user) involvement at the developmental stage enables researchers to move from "breakthrough" into "demand technology," which has yielded the benefits of fusion technology. Although this is an oversimplification, more involvement would have the

effect of tailoring research more directly to needs.

With strict budget restraints, a CINC may prefer more units of a system, such as aircraft with certain but fewer capabilities, rather than fewer aircraft that are more expensive and have more capabilities.

Recommendation. Until the acquisition system is refined from the Cold War model, CINCs need to become more involved in research and development.

(6) Economic Hegemony. As Europe and Japan adventure into new economic and security arrangements, their respective regional influences will most likely become even stronger. Depending on the fate of our economic star, the U.S. could become less of a world leader and more of an equal partner among economic powers. Two types of war will continue to occur: wars of interests and wars of conscience.[35] Fewer wars of interest should occur with the emergence of broad alliances that can use economic and other levers to pressure problem states. However, instability in the world from migration of "have nots" to "haves," and ethnic, social, and transnational issues will stimulate a range of wars for humanitarian and relief issues.

Most commanders feel the U.S. military must carefully avoid organizing and training for these non-traditional roles, out of concern about losing their edge for combat. On the other hand, non-traditional military operations can be extremely dangerous. Americans can die and the U.S. military look impotent in a poorly executed war of conscience.

Conclusion. With both Japan and Europe expanding their economic influences, and the U.S. pulling back from its 1980's forward deployed posture, U.S. regional influence may moderate in some Area of Responsibility (AOR). When objectives are murky, obtaining

consensus may be difficult, and so the U.S. may choose to operate independently, as we nearly did in Bosnia.

Also, allies may "pull our economic lever," by using economic issues and influences to obtain U.S. participation in operations where we have little at stake., and may otherwise not have that much interest. This is particularly true regarding non-traditional military operations.

Recommendation. The U.S. needs to continue to nurture relationships with long standing allies, even if they become regional economic hegemonies. If we have limited interests in an operation, the U.S. can take a minor role, as our allies frequently do with us.

In addition to being warriors, CINCs need to distinguish themselves as ambassadors, nation-builders, humanitarians and protectors of the peace. With increased likelihood of non-traditional missions, CINCs need now to organize and train for both traditional and non-traditional conflict. Organizing and training for certain non-traditional tasks may be essential for their success.

Final Thoughts. It is critical for the United States to have economic strength, if we are to maintain a superior military force. However, just because we achieve economic success, in the absence of a significant definable threat to the U.S., it doesn't necessarily mean we will maintain or rebuild a strong military force. It would be hard for a democratic society, where citizens set government priorities through their representatives, to do otherwise. CINCs, get ready for a roller coaster ride, lots of twists and tight turns, mostly down hill, and it may be fast.

APPENDIX I

Operational control of U.S. combat forces is assigned to the nation's unified and specified commands. The chain of command runs from the president to the secretary of defense to the unified and specified commanders in chief. Orders and other communications from the president or secretary are transmitted through the chairman of the Joint Chiefs of Staff.

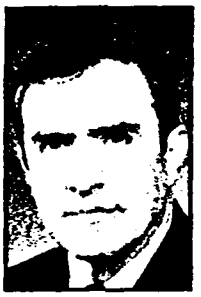
A unified command is composed of forces from two or more services, has a broad and continuing mission and is normally organized on a geographical basis. A specified command also has a broad and continuing mission, but is organized on a functional basis and is normally made up of forces from a single service.

The number of unified and specified commands is not fixed by law or regulation and may vary from time to time.

Commanders in Chief, Unified Commands

U.S. European Command
Stuttgart-Vaihingen, Germany
Gen. John M. Shalikashvili, USA

U.S. Pacific Command
Honolulu, Hawaii
Adm. Charles R. Larson, USN



U.S. Atlantic Command
Norfolk, Va.
Adm. Paul David Miller, USN

U.S. Southern Command
Quarry Heights,
Republic of Panama
Gen. George A. Joulwan, USA

U.S. Central Command
MacDill Air Force Base, Fla.
Gen. Joseph P. Hoar, USMC

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U.S. Strategic Command
Offutt Air Force Base, Neb.
Gen. George L. Butler, USAF

Commander in Chief, Specified Command

Forces Command
Fort McPherson, Ga.
Gen. Edwin H. Burba Jr., USA

Unified & Specified Commands
(As of Sept. 1, 1992)

Source: Defense Almanac (Washington: U.S. Govt. Print. Off., Sep., Oct., 1992), p. I-24.

APPENDIX II

LIST OF NEC AND NSC MEMBERSHIP

NATIONAL ECONOMIC COUNCIL
Executive Office of the President Washington, DC 20500

Note: The National Economic Council was established by Executive Order on January 25, 1993.

THE COUNCIL MEMBERSHIP

(Area Code 202)

Chairman, The President William J Clinton 456-1414
The Vice President Albert Gore Jr 456-2326
Secretary of Agriculture Mike Espy 200-A ADMIN 720-3631
Secretary of Commerce Ronald H Brown 5858 HCH 482-2112
Secretary of Energy Hazel R O'Leary 7A-257 DOE 586-6210
Secretary of Housing and Urban Development Henry G Cisneros 10000 HUD 708-0417
Secretary of Labor Robert B Reich S2018 FPB 219-8271
Secretary of State Warren Christopher 7226 STATE 647-5291
Secretary of Transportation Federico F Pena 10200 DOT 366-1111
Secretary of the Treasury Lloyd M Bentsen 3330 TREAS 622-0190
Administrator, Environmental Protection Agency Carol M Browner W1200 WTWM 260-4700
Chair, Council of Economic Advisers Laura D'Andrea Tyson 314 OEOB 395-5042
Director, Ofc of Management & Budget Leon E Panetta 252 OEOB 395-4840
US Trade Representative Michael Kantor 209 395-3204
Asst to the Pres for Domestic Pol Carol H Rasco 456-2216
Asst to the Pres for Economic Pol Robert E Rubin 456-2174
Asst to the Pres for Science & Technology Pol John H Gibbons 424 OEOB 456-7116

(Area Code 202)

National Security Advisers:
W Anthony Lake 456-2255
Samuel Berger 360 OEOB 456-2257

STAFF

☆ Asst to the Pres for Economic Policy Robert E Rubin 456-2174
Special Asst Sylvia Matthews 456-2174
☆ Dep Asst to the Pres for Econ Pol W Bowman Cutter 231 OEOB 456-6630
Special Asst David Lane 231 OEOB 456-6520
☆ Dep Asst to the Pres for Econ Pol Gene Sperling 456-2620
Staff Assistants:
Michael Deich 235 OEOB 456-2801
Thomas Kalil 235 OEOB 456-2801

NATIONAL SECURITY COUNCIL
Old Executive Ofc. Bldg. 17th St. & Pennsylvania Ave., N.W. Washington, DC 20506

MEMBERS

Note: President Clinton has announced his intention to expand the membership of the National Security Council to include the Secretary of the Treasury, the Assistant to the President for Economic Policy, and the U.S. Representative to the United Nations.

(Area Code 202)

The President William J Clinton , White House 456-1414
The Vice President Albert Gore Jr , White House 456-2326

(Area Code 202)

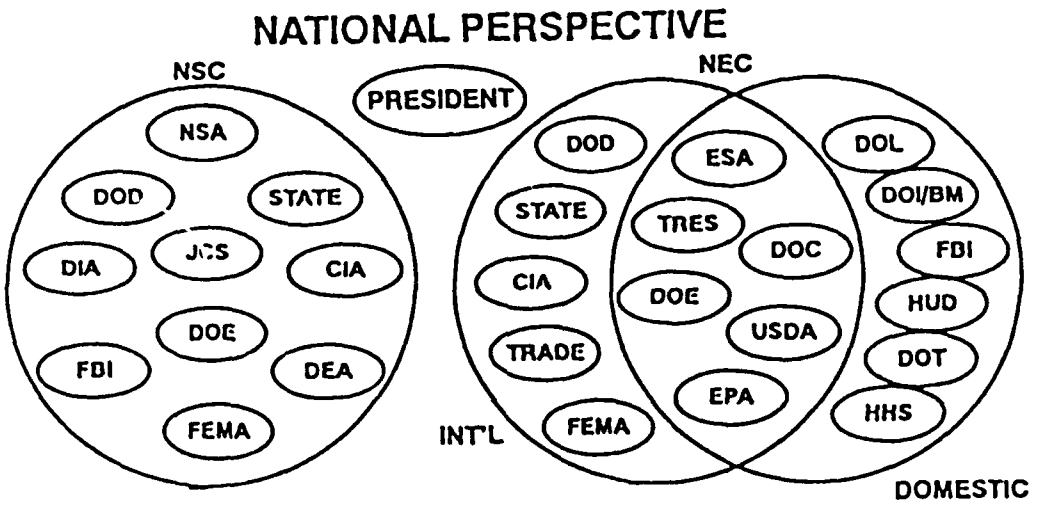
Secretary of State Warren Christopher 7226 STATE 647-5291
Secretary of Defense Les Aspin 3E880 PNT ..... (703) 695-5261

★ Presidential Appointment requiring Senate confirmation ☆ Presidential Appointment □ Schedule C Appointment

Source: Federal Yellow Book (Washington: Monitor, Spring 1993), p. 15.

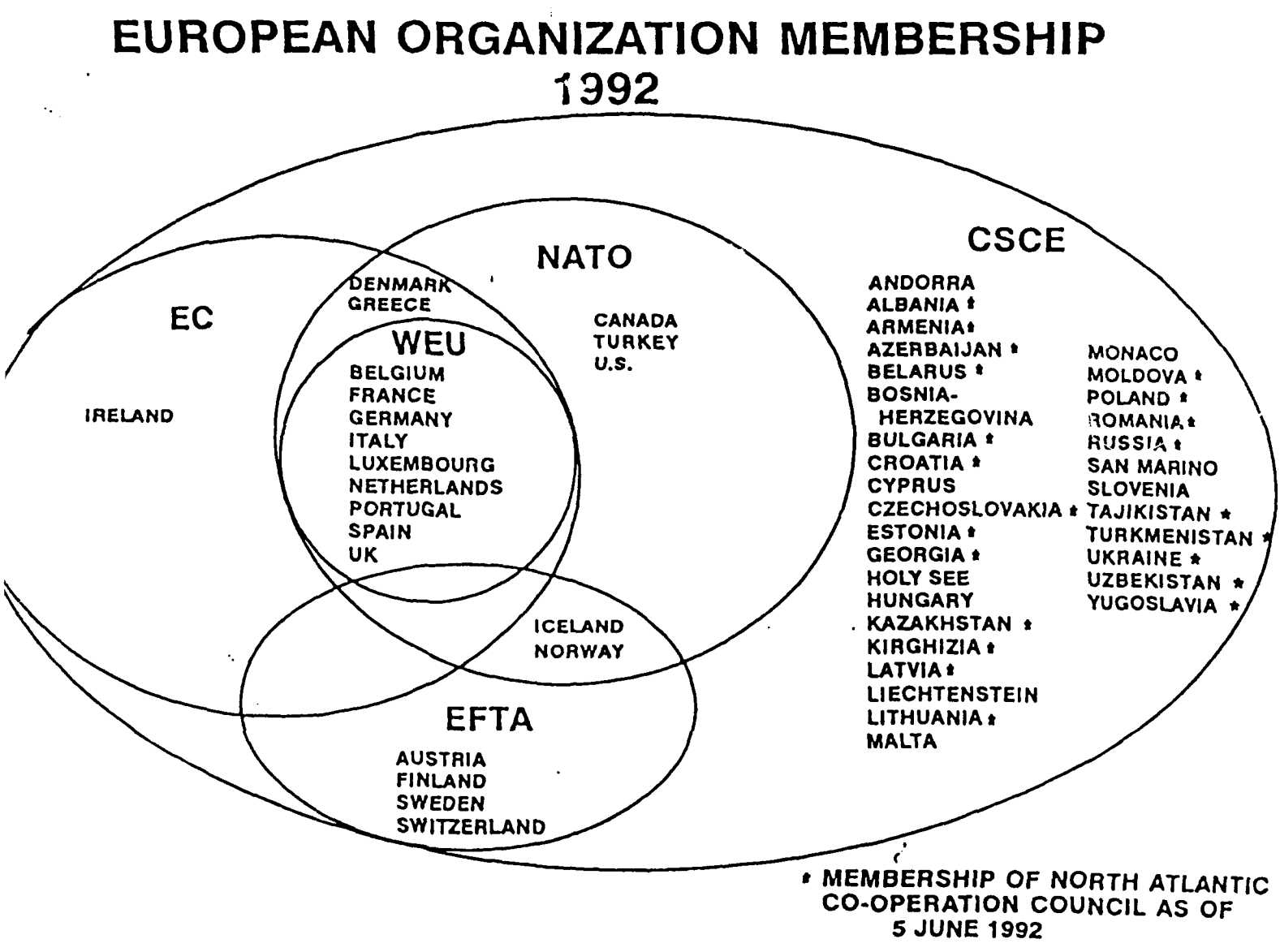
APPENDIX III

SCHEMATIC OF NSC AND NEC ON EQUAL LEVELS



Source: Newport, RI: Naval War College, Center for Naval Warfare Studies, War Gaming Dept., "Global War Game - 93 Flipchart," June, 1993.

APPENDIX IV: EUROPEAN ORGANIZATION MEMBERSHIP CHART



Source: Newport, RI: Naval War College, Center for Naval Warfare Studies, War Gaming Dept., "Global War Game - 93 Flipchart," June, 1993.

NOTES

1. CINCs refer to the seven United States Unified Commands and one Specified Command. Some aspects of this paper refer primarily to the five Unified Commands that are organized on a geographic basis. However, overall, the implications are of significance to all U.S. Unified and Specified Commands. See Appendix I for additional detail on U.S. CINCs.

2. U.S. Congress, Office of Technology Assessment, Redesigning Defense: Planning the Transition to the Future U.S. Defense Industrial Base, OTA-ISC-500 (Washington: U.S. Govt. Print. Off., July, 1991)

3. Congress, House Armed Services Committee, Research, Development, and Procurement Subcommittees. "Prepared Statement," Deputy Secretary of Defense Donald J. Atwood, Safeguarding Reconstitution, Industrial Capacities. (Washington: April 28, 1992).

4. President, National Security Strategy of the United States. Washington: U.S. Govt. Print. Off., August 1991.

5. Daniel K. Inouye, "Facing the Future: The American Defense Challenge in the Post-Cold War Era," The Officer, March 1993, pp. 30-31.

6. Lester C. Thurow, "Who Owns the Twenty-First Century?" Sloan Management Review, Spring 1992, pp. 7-10.

7. Communitarian capitalism is a term used to describe a variation of capitalism that deemphasizes profit objectives and emphasizes R&D, investment, and teamwork between labor and management. This variation of capitalism tends to gain market share when in direct competition with pure profit oriented capitalism. Once it dominates market share, it can specify price and profit. An example of this is Japanese dominance in the VCR market, originally a U.S. invention. See Thurow, pp. 5-12.

8. George C. Lodge, "Perestroika for America," (Boston: Harvard Business School Press, 1991), pp. 15-16.

9. Thurow, p. 11.

10. Mr. Thurow has been appointed by President Clinton as an economic advisor.

11. John T. Correll and Colleen A. Nash, "Lifelines Abroad," Air Force Magazine, October 1991.

12. Thurow, p. 11.

13. Examples of material "generations" are first generation, wood or stone; second generation, iron or copper; third generation, plastics, synthesized artificially; fourth generation, custom designed materials by manipulating atoms and electrons. See Endnote 14.

14. Fumio Kodama, "Technology Fusion and the New R&D," Harvard Business Review, July-August 1992, pp. 70-78.

15. Jacques S. Gansler, "Restructuring the Defense Industrial Base," Issues in Science and Technology, Spring 1992, p. 50.

16. Richard W. Stevenson, "Will Aerospace Be the Next Casualty?" The New York Times, 15 March 1992, p. 1.

17. Carol Reed, "Surviving the Downturn," Jane's Defence Weekly, 19 September 1992, pp. 43-46.

18. Ibid.

19. Stevenson, pp. 1-6.

20. These seven major DoD Science and Technology "thrusts" are: (1) Global Surveillance and Communications, (2) Precision Strike, (3) Air Superiority and Defense, (4) Sea Control and Undersea Superiority, (5) Advanced Land Combat Vehicles, (6) Computers and Electronics, and (7) Technology for Affordability.

21. Robert Moulton, "Maintaining the Technological Edge," National Defense, July/August 1992, p. 6.

22. Ibid, p 7.

23. Copernicus architecture, now in design, conceptually places the operating commanders in the center, much like the sun is the center of the universe, enabling them to draw what they need from fused information.

24. "C4I2" means Command, Control, Communications, Computer, Intelligence, and Information. Each term refers to a capability of the system described.

25. SEW is defined as "the neutralization or destruction of enemy targets and the enhancement of friendly force battle management through the integrated employment and exploitation of the electromagnetic and acoustic spectra and the medium of space."
SEW is a force-multiplier applicable at the Battle Group Commander level and higher where a Space and Electronics Warfare Commander/Coordinator (SEWC) manages a broad array of capabilities, including all aspects of Electronic Warfare (EW), Operational Deception (OPDEC), Countertargeting (CTTG) and many facets of Intelligence, Cryptology and Communications, with some overlap with other warfare commanders, such as Suppression of Enemy Air Defenses (SEAD).

26. Center for Naval Analysis, Chief of Naval Operations (Director, Test and Evaluation and Technology Requirements, OP-091), and The United States Naval War College (Center for Naval Warfare Studies), Technology Initiatives Game 1991: Space and Electronic Warfare and C3I in 2010 (U), March 1992.

27. Les Aspin, "Many Nations Profoundly Anti-American," The Officer, February, 1993, p. 27.

28. USCINCEUR refers to Commander in Chief, U.S. European Command, headquartered in Stuttgart-Vaihingen, Germany.

29. NAFTA is the North American Free Trade Association, which has been negotiated and is currently in the process of being ratified by the United States, Canada, and Mexico.

30. Richard L. Berke, "Japan is Rallying Asian Nations Against New U.S. Trade Policies," The New York Times, 7 June 1993, p. 1.

31. WMD refers to "weapons of mass destruction," a term used to group nuclear, biological, and chemical weapons together.

32. "Iron triangle" refers to the mutually beneficial and sustaining relationship betweeen Congress, defense contractors and the military extablishment that developed and flourished during the Cold War. Certain influential members of Congress got jobs (and hence political power) in their district, defense contractors received contracts and profits from the military establishment, and the military obtained weapons from Congress.

33. Shintaro Ishihara, The Japan That Can Say No, (New York: Simon & Shuster, 1991).

34. Ralph Crosby, "Remarks," as part of an "Acquisition Panel," U.S. Naval War College, Newport, RI., 22 October 1992.

35. Robert L. Pfaltzgraff, Jr., "The New Threat: A Post-Cold War Security Consensus," National Guard, January 1993, p. 25.

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